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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

WRITTEN OPINION

(PCT Rule 66)

To: LESTER L. HEWITT
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DEC 27 1999

Docket by LL
Action Reply IPEA opinion
Effective date 1/21/00

Date of Mailing (day/month/year) **21 DEC 1999**

Applicant's or agent's file reference number **A97139WO**

REPLY DUE within ONE months from the above date of mailing

International application No. PCT/US99/03888	International filing date (day/month/year) 24 FEBRUARY 1999	Priority date (day/month/year) 02 MARCH 1998
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International Patent Classification (IPC) or both national classification and IPC
IPC(6): E21B 7/12, 21/10, 21/12 and US Cl.: 175/7, 214, 215

Applicant
WILLIAMS TOOL COMPANY, INC.

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☒ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 02 JULY 2000

Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer HOANG DANG <i>Diane Smith for</i>
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I. Basis of the opinion

1. This opinion has been drawn on the basis of *(Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".)*

☒ the international application as originally filed.

☒ the description, pages 1-16, as originally filed.

pages NONE, filed with the demand.

pages NONE, filed with the letter of _____

☒ the claims, Nos. 1-18, as originally filed.

Nos. NONE, as amended under Article 19.

Nos. NONE, filed with the demand.

Nos. NONE, filed with the letter of _____

☒ the drawings, sheets/fig 1-14, as originally filed.

sheets/fig NONE, filed with the demand.

sheets/fig NONE, filed with the letter of _____

2. The amendments have resulted in the cancellation of:

☒ the description, pages NONE

☒ the claims, Nos. NONE

☒ the drawings, sheets/fig NONE

3. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the ~~Supplemental Box~~ Additional observations below (Rule 70.2(c)).

4. Additional observations, if necessary:

NONE

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V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. STATEMENT**

Novelty (N)	Claims <u>1-18</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>9, 17 and 18</u>	YES
	Claims <u>1-8 and 10-16</u>	NO
Industrial Applicability (IA)	Claims <u>1-18</u>	YES
	Claims <u>NONE</u>	NO

2. CITATIONS AND EXPLANATIONS

Claims 4, 5, 7, 8, and 10 lack an inventive step under PCT Article 33(3) as being obvious over Williams et al (5,662,181) in view of Jones (3,827,511) or Cain (4,355,784). Either Jones or Cain teaches providing an adjustable choke in communication with a second housing opening to increase the borehole pressure to a pressure equal to or greater than the formation pressure of an abnormal pore pressure environment in case of a "kick" to prevent a blowout (see column 1, lines 11-45 in Jones or column 1, lines 13-51 in Cain). It would have been obvious to provide the return outlet bore 9 of Williams et al with a choke (i.e., "pressure control device") in view of the teaching of Jones '511 or Cain '784 for the advantage pointed out above.

Claim 11 lacks an inventive step under PCT Article 33(3) as being obvious over the prior art as applied in the immediately preceding paragraph and further in view of Murray et al (4,157,186). It would have been obvious to provide Williams et al as modified by Jones or Cain with a subsea lubrication unit for injecting into the sealed bearing assembly in view of the teaching of Murray et al (see column 4, lines 51-55) to cool and lubricate the bearings, thereby extending its service life.

Claims 1-8 and 10-16 lack an inventive step under PCT Article 33(3) as being obvious over Harrison (3,638,721) in view of Neath (4,046,191) or Jones (3,827,511). Harrison discloses the invention as claimed except for the steps of "pressurizing the fluid to at least the pore pressure of the abnormal pore pressure environment" and "drilling a borehole below the casing..." However, Neath (column 1, lines 12-53) or Jones (column 1, lines 1-60) shows that it is well known that during the course of drilling a borehole, when a formation with a pressure greater than the hydrostatic pressure in the well is encountered (i.e., a "kick" or an "abnormal pore pressure environment"), the pressure of the drilling mud is increased to a pressure equal to or greater than the encountered formation by adjusting a choke at the return line and by using a heavier drilling fluid to control the "kick" or to stabilize the well. After the well has been stabilized the drilling is then resumed with the heavier drilling (Continued on Supplemental Sheet.)

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VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claims 3 and 6 are objected to under PCT Rule 66.2(a)(v) as lacking clarity under PCT Article 6 because the claims are indefinite for the following reason(s): Claim 3, line 5, the word "in" should be --within--. Claim 6, lines 10-11, the term "the abnormal pore pressure environment" has no proper antecedent basis.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):

mud and at a pressure at least equal to the encountered formation (or abnormal pore pressure environment).

____ NEW CITATIONS ____

NONE